

CLAIMS

1. A photoelectric conversion device, comprising: a first insulating layer, formed so as to cover a photoelectric conversion element and a connection electrode that are formed on a substrate, where the first insulating layer has an opening portion extending to the connection electrode; and a conductive layer formed on the first insulating layer, wherein the conductive layer is formed so as to be connected via the opening portion to the connection electrode.

2. A photoelectric conversion device, comprising: a first insulating layer formed so as to cover a photoelectric conversion element formed on a substrate; and a conductive layer formed on the first insulating layer, wherein the conductive layer is formed so as to be connected to a connection electrode, formed on the substrate, via an exposing portion provided on an end face of the first insulating layer in order to expose at least a part of the connection electrode.

3. A photoelectric conversion device, comprising: a first insulating layer formed so as to cover a photoelectric conversion element formed on a substrate and a pixel capacitor section connected to the photoelectric conversion

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element; and a conductive layer formed on the first insulating layer, wherein

a thickness of the first insulating layer is thinner in an area positioned on or above the pixel capacitor section than in other area.

4. The photoelectric conversion device as set forth in claim 3, wherein:

the first insulating layer includes an insulating protective film, formed so as to cover the photoelectric conversion element, which protects the photoelectric conversion element, and

the first insulating layer has a relative dielectric constant which is higher in the insulating protective film than in a portion other than the insulating protective film.

5. The photoelectric conversion device as set forth in any one of claims 1 to 4, wherein

the first insulating layer includes: an inorganic insulating film formed so as to cover the photoelectric conversion element; and an organic insulating film formed on the inorganic insulating film.

6. The photoelectric conversion device as set forth in any one of claims 1 to 5, further comprising

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a second insulating layer formed on or above the conductive layer, which is formed on the first insulating layer.

7. The photoelectric conversion device as set forth in any one of claims 1 to 6, further comprising

a conversion layer, which is formed on or above the conductive layer formed on the first insulating layer, which converts a radiant ray into light.

8. An image scanning apparatus, comprising

the photoelectric conversion device as set forth in any one of claims 1 to 7, wherein the photoelectric conversion device is used as an image scanning sensor.

9. A manufacturing method of a photoelectric conversion device, comprising the steps of:

forming a photoelectric conversion element and a connection electrode on a substrate;

providing a first insulating layer for covering the photoelectric conversion element and the connection electrode, and forming an opening portion, extending to the connection electrode, in the first insulating layer; and

forming a conductive layer, connected via the opening portion to the connection electrode, on the first insulating

layer.

10. A manufacturing method of a photoelectric conversion device, comprising the steps of:

forming a photoelectric conversion element and a connection electrode on a substrate;

providing a first insulating layer for covering the photoelectric conversion element and the connection electrode, and forming an exposing portion on an end face of the first insulating layer so that at least a part of the connection electrode is exposed; and

forming a conductive layer, connected via the exposing portion to the connection electrode, on the first insulating layer.

11. A manufacturing method of a photoelectric conversion device, comprising the steps of:

forming a photoelectric conversion element and a pixel capacitor section, connected to the photoelectric conversion element, on a substrate;

forming a first insulating layer so as to cover the photoelectric conversion element and the pixel capacitor section; and

forming a conductive layer on the first insulating layer; wherein

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the first insulating layer is formed so that a thickness of the first insulating layer is thinner in an area positioned on or above the pixel capacitor section than in other area.

12. The method as set forth in any one of claims 9 to 11, further comprising

the step of forming a second insulating layer on or above the conductive layer formed on the first insulating layer.

13. The method as set forth in any one of claims 9 to 12, further comprising the step of forming a conversion layer, which converts a radiant ray into light, on or above the conductive layer formed on the first insulating layer.